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Sequence Listing was accepted.

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Reviewer: Anne Corrigan

Timestamp: [year=2007; month=11; day=25; hr=15; min=45; sec=10; ms=279;]
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Application No: 10561041   Version No: 1.0

                   Input Set:

                   Output Set:

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            Finished: 2007-11-02 19:57:53.869
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        Total Errors: 0
 No. of SeqIDs Defined: 44
    Actual SeqID Count: 44

Error code   Error Description

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W   213   Artificial or Unknown found in <213> in SEQ ID (19)

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            Input Set:


            Output Set:



              Started:   2007-11-02 19:57:50.075
             Finished:   2007-11-02 19:57:53.869
              Elapsed:   0 hr(s) 0 min(s) 3 sec(s) 794 ms
       Total Warnings:   42
         Total Errors:   0
 No. of SeqIDs Defined:   44
    Actual SeqID Count:   44
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Error code   Error Description

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W 213   Artificial or Unknown found in <213> in SEQ ID (27)

W 213   Artificial or Unknown found in <213> in SEQ ID (28)

W 213   Artificial or Unknown found in <213> in SEQ ID (29)

W 213   Artificial or Unknown found in <213> in SEQ ID (30)

W 213   Artificial or Unknown found in <213> in SEQ ID (31)

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W 213   Artificial or Unknown found in <213> in SEQ ID (33)

W 213   Artificial or Unknown found in <213> in SEQ ID (34)
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<110> MIYAWAKI, ATSUSHI
      TSUTSUI, HIDEKAZU
      KARASAWA, SATOSHI

<120> FLUORESCENT PROTEIN AND CHROMOPROTEIN

<130> P28993

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Gly Thr Gly Gln Pro Tyr Glu Gly Thr Gln Cys Ile Gln Leu Arg Val
           35   40   45

Glu Lys Gly Gly Pro Leu Pro Phe Ser Val Asp Ile Leu Ser Ala Ala
       50   55   60

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Phe Leu Tyr Gly Asn Arg Cys Met Thr Lys Tyr Pro Gly Gly Ile Val
 65                  70                  75                  80

Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Glu Arg Ser
                 85                  90                  95

Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile Arg
             100                 105                 110

Leu Ser Val Glu Asp Asn Cys Phe Tyr His Glu Ser Lys Phe Ser Gly
         115                 120                 125

Val Asn Phe Pro Val Asp Gly Pro Val Met Thr Leu Ala Thr Thr Gly
     130                 135                 140

Trp Glu Pro Ser Ser Glu Lys Met Val Pro Ser Gly Gly Ile Val Lys
145                 150                 155                 160

Gly Asp Val Thr Met Tyr Leu Leu Leu Lys Asp Gly Gly Arg Tyr Arg
                 165                 170                 175

Cys Gln Phe Asn Ser Asn Tyr Lys Ala Lys Thr Glu Pro Lys Glu Met
                 180                 185                 190

Pro Asp Phe His Phe Val Glu His Lys Ile Val Arg Thr Asp Leu Gly
         195                 200                 205

Gly Arg Asp Gln Lys Trp Gln Leu Val Gly Asn Ser Ala Ala Cys Ala
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Ser Ala Phe
225


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cat atg gag ggg tgt gtt aac ggg cat gaa ttt aca atc aag ggc gaa    96
His Met Glu Gly Cys Val Asn Gly His Glu Phe Thr Ile Lys Gly Glu
                 20                  25                  30

ggc act ggg caa cct tac gaa ggg aca cag tgt att caa ctc cgt gtg   144
Gly Thr Gly Gln Pro Tyr Glu Gly Thr Gln Cys Ile Gln Leu Arg Val
             35                  40                  45
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gaa aaa ggg ggt cca ttg cca ttc tca gta gac ata ttg tcg gct gcg      192
Glu Lys Gly Gly Pro Leu Pro Phe Ser Val Asp Ile Leu Ser Ala Ala
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ttt cta tac gga aac agg tgc atg acc aaa tat cct gga ggc ata gtt      240
Phe Leu Tyr Gly Asn Arg Cys Met Thr Lys Tyr Pro Gly Gly Ile Val
 65              70              75              80

gac tat ttc aag aac tca tgc cct gct gga tat aca tgg gaa agg tct      288
Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Glu Arg Ser
                85              90              95

ttt ctc ttt gaa gat ggc gcg gtg tgc aca gca agt gca gat ata cgc      336
Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile Arg
            100             105             110

ttg agt gtc gag gat aac tgc ttt tat cac gaa tcc aag ttt agt gga      384
Leu Ser Val Glu Asp Asn Cys Phe Tyr His Glu Ser Lys Phe Ser Gly
        115             120             125

gta aac ttt cct gtt gat gga cct gtg atg aca ctg gcg acg act ggt      432
Val Asn Phe Pro Val Asp Gly Pro Val Met Thr Leu Ala Thr Thr Gly
    130             135             140

tgg gag cca tcc tcc gag aaa atg gtg ccc agt ggg ggg ata gtg aaa      480
Trp Glu Pro Ser Ser Glu Lys Met Val Pro Ser Gly Gly Ile Val Lys
145             150             155             160

ggg gat gtc acc atg tac ctc ctt ctg aag gat ggt ggg cgt tac cgg      528
Gly Asp Val Thr Met Tyr Leu Leu Leu Lys Asp Gly Gly Arg Tyr Arg
                165             170             175

tgc cag ttc aac agt aat tac aag gca aag act gag ccg aaa gag atg      576
Cys Gln Phe Asn Ser Asn Tyr Lys Ala Lys Thr Glu Pro Lys Glu Met
            180             185             190

cca gac ttt cac ttc gtg gag cat aag atc gta agg acc gac ctc ggt      624
Pro Asp Phe His Phe Val Glu His Lys Ile Val Arg Thr Asp Leu Gly
        195             200             205

ggc cga gac cag aaa tgg caa ctg gtg gga aat tct gct gca tgt gca      672
Gly Arg Asp Gln Lys Trp Gln Leu Val Gly Asn Ser Ala Ala Cys Ala
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Ser Ala Phe
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Val Ala Thr Gly Tyr Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
             35                  40                  45

Ile Ile Lys Pro Ala Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu
     50                  55                  60

Ser Ser Val Phe His Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala
 65                  70                  75                  80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr
                 85                  90                  95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Ala Val Ala Thr Ala Ser Trp
                100                 105                 110

Asn Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Phe His
            115                 120                 125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile
            130                 135                 140

Asp Trp Glu Lys Ser Phe Glu Lys Met Thr Val Ser Lys Glu Val Leu
145                 150                 155                 160

Arg Gly Asp Val Thr Met Phe Leu Met Leu Glu Gly Gly Gly Ser His
                165                 170                 175

Arg Cys Gln Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met
                180                 185                 190

Pro Pro Asn His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly
            195                 200                 205

Gln Ser Ala Lys Gly Phe Thr Val Lys Leu Glu Ala His Ala Val Ala
    210                 215                 220

His Val Asn Pro Leu Lys Val Lys
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tac cat atg gaa ggc agt gtc aat ggc cat gaa ttc acg atc gaa ggt      96
Tyr His Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly
                20                  25                  30

gta gca act ggg tac cct tac gaa ggg aaa cag atg tcc gaa tta gtg      144
Val Ala Thr Gly Tyr Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
            35                  40                  45

atc atc aag cct gcg gga aaa ccc ctt cca ttc tcc ttt gac ata ctg      192
Ile Ile Lys Pro Ala Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu
        50                  55                  60

tca tca gtc ttt cat tat gga aac agg tgc ttc aca aag tac cct gca      240
Ser Ser Val Phe His Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala
    65                  70                  75                  80

gac atg cct gac tat ttc aag caa gca ttc cca gat gga atg tcg tat      288
Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr
                85                  90                  95

gaa agg tca ttt cta ttt gaa gat gga gca gtt gct aca gcc agc tgg      336
Glu Arg Ser Phe Leu Phe Glu Asp Gly Ala Val Ala Thr Ala Ser Trp
            100                 105                 110

aac att cgt ctc gaa gga aat tgc ttc atc cac aat tcc atc ttt cat      384
Asn Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Phe His
            115                 120                 125

ggc gta aac ttt ccc gct gat gga ccc gta atg aaa aag cag aca att      432
Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile
        130                 135                 140

gac tgg gag aag tcc ttc gaa aaa atg act gtg tct aaa gag gtg cta      480
Asp Trp Glu Lys Ser Phe Glu Lys Met Thr Val Ser Lys Glu Val Leu
145                 150                 155                 160

aga ggt gat gtg act atg ttt ctt atg ctc gaa gga ggt ggt tct cac      528
Arg Gly Asp Val Thr Met Phe Leu Met Leu Glu Gly Gly Gly Ser His
            165                 170                 175

aga tgc cag ttt cac tcc act tac aaa aca gag aag ccg gtc gca atg      576
Arg Cys Gln Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met
            180                 185                 190

ccc ccg aat cat gtc gta gaa cat caa att gtg agg acc gac ctt ggc      624
Pro Pro Asn His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly
            195                 200                 205

caa agt gca aaa ggc ttt aca gtc aag ctg gaa gca cat gct gtg gct      672
Gln Ser Ala Lys Gly Phe Thr Val Lys Leu Glu Ala His Ala Val Ala
            210                 215                 220

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His Val Asn Pro Leu Lys Val Lys
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                20   25   30

Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
            35   40   45

Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu
        50   55   60

Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala
65   70   75   80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr
                85   90   95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp
                100   105   110

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His
            115   120   125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile
            130   135   140

Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu
145   150   155   160

Arg Gly Asp Val Thr Gln Phe Leu Leu Leu Glu Gly Gly Gly Tyr Gln
                165   170   175

Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met
                180   185   190

Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly
            195   200   205

Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala
        210   215   220

His Val Asn Pro Leu Lys Val Lys
225   230

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Met Val Ser Tyr Ser Lys Gln Gly Ile Ala Gln Glu Met Arg Thr Lys
 1               5                   10                  15

tac cgt atg gaa ggc agt gtc aat ggc cat gaa ttc acg atc gaa ggt      96
Tyr Arg Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly
                20                  25                  30

gta gga act gga aac cct tac gaa ggg aaa cag atg tcc gaa tta gtg     144
Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
            35                  40                  45

atc atc aag tct aag gga aaa ccc ctt cca ttc tcc ttt gac ata ctg     192
Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu
        50                  55                  60

tca aca gcc ttt caa tat gga aac aga tgc ttc aca aag tac cct gca     240
Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala
 65                  70                  75                  80

gac atg cct gac tat ttc aag caa gca ttc cca gat gga atg tca tat     288
Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr
                85                  90                  95

gaa agg tca ttt cta ttt gag gat gga gga gtt gct aca gcc agc tgg     336
Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp
            100                 105                 110

agc att cgt ctc gaa gga aat tgc ttc atc cac aat tcc atc tat cat     384
Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His
        115                 120                 125

ggc gta aac ttt ccc gct gat gga ccc gta atg aag aag cag aca att     432
Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile
    130                 135                 140

ggc tgg gat aag tcc ttc gaa aaa atg agt gtg gct aaa gag gtg cta     480
Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu
145                 150                 155                 160

aga ggt gat gtg act cag ttt ctt ctg ctc gaa gga ggt ggt tac cag     528
Arg Gly Asp Val Thr Gln Phe Leu Leu Leu Glu Gly Gly Gly Tyr Gln
                165                 170                 175

aga tgc cgg ttt cac tcc act tac aaa acg gag aag cca gtc gca atg     576
Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met
            180                 185                 190

ccc ccg agt cat gtc gta gaa cat caa att gtg agg acc gac ctt ggc     624
Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly
        195                 200                 205
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caa act gca aaa ggc ttc aag gtc aag ctg gaa gaa cat gct gag gct    672
Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala
    210             215             220

cat gtt aac cct ttg aag gtt aaa taa                                699
His Val Asn Pro Leu Lys Val Lys
225             230


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<213> Acropora sp.

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Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
            35                  40                  45

Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu
    50                  55                  60

Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala
 65                  70                  75                  80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr
                85                  90                  95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp
            100                 105                 110

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His
            115                 120                 125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile
    130                 135                 140

Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu
145                 150                 155                 160

Arg Gly Asp Val Thr His Phe Leu Leu Leu Glu Gly Gly Gly Tyr Gln
                165                 170                 175

Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met
            180                 185                 190

Pro Pro Ser His Val Val Glu His
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